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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Wolfram Angerer, et al.

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Intl. Application No.: PCT/EP01/04586

Group Art Unit: Not Assigned

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Examiner: Not Assigned

For: SHAFT DRIVE UNIT, IN PARTICULAR AN ELECTRICAL DRIVE UNIT FOR  
DRIVING A WHEEL SHAFT WITH A TRANSVERSE SHAFT STRUCTURE

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Asst. Commissioner for Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Prior to examination please amend the application as follows:

**FEE CALCULATION**

In the event the actual fee is greater than the payment submitted or is inadvertently not enclosed or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 15-0700.

**CONTINGENT EXTENSION REQUEST**

If this communication is filed after the shortened statutory time period had elapsed and no separate Petition is enclosed, the Commissioner of Patents and Trademarks is petitioned, under 37 C.F.R. § 1.136(a), to extend the time for filing a response to the outstanding Office Action by the number of months which will avoid abandonment under 37 C.F.R. § 1.135. The fee under 37 C.F.R. § 1.17 should be charged to our Deposit Account No. 15-0700.

## AMENDMENTS

✓ If checked, amendment(s) to the specification and/or claims are submitted herewith.

### 1. Claims:

Please amend claims 4-10 and 13-15 pursuant to 37 C.F.R. § 1.121(c)(i) as set forth in the “clean” version attached hereto as Appendix A. Entry is respectfully requested. A version with markings to show the changes made pursuant to 37 C.F.R. § 1.121(c)(ii) is attached hereto as Appendix B.

## REMARKS/ARGUMENT

The Preliminary Amendment is being submitted to change the multiple dependent claims to single dependent claims in order to eliminate the multiple dependent claims and to reduce the government filing fee.

### EXPRESS MAIL CERTIFICATE

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail Post Office to Addressee (mail label #EL334668171US) in an envelope addressed to: U.S. Patent and Trademark Office, P.O. Box 2327, Arlington, VA 22202, on January 9, 2002

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**APPENDIX A**  
**“CLEAN” VERSION OF EACH PARAGRAPH/SECTION/CLAIM**  
**37 C.F.R. § 1.121(b)(ii) AND (c)(i)**

**CLAIMS (with indication of amended or new):**

4. (Amended) The shaft drive unit (1) as claimed in claim 1, wherein the convertor unit (11) is arranged on the external circumference (14) of the housing (12) of the electrical drive machine (4).

5. (Amended) The shaft drive unit (1) as claimed in claim 1, wherein the converter unit (11) is arranged in the housing of the electrical drive machine (4).

6. (Amended) The shaft drive unit (1) as claimed in claim 1, wherein the converter unit (11) is arranged on one end surface (13) of the electrical drive machine (4).

7. (Amended) The shaft drive unit (1) as claimed in claim 2, wherein the means for mechanical coupling between the electrical machine (4) and the converter unit (11) associated with it comprise connection means (21, 22) whose elements (4, 11) which are to be connected to one another are designed to be mutually complementary and to allow a force-fitting connection.

8. (Amended) The shaft drive unit (1) as claimed in claim 2, wherein the means for mechanical coupling between the electrical machine (4) and the converter unit (11) associated with it comprise connection means (21, 22) which are designed to be mutually complementary and allow an interlocking connection.

9. (Amended) The shaft drive unit (1) as claimed in claim 1, distinguished by the following features:

9.1 a large number of braking resistor units (10.1, 10.2, 10.3) are provided;

9.2 the braking resistor units (10.1, 10.2, 10.3, 10.4, 10.5) are grouped, in one view, onto the wheel shaft (3) in the axial direction in a plane in an annular shape around the circumference of the input or output drive shaft (28) of the electrical machine (4) or of the wheel shaft (3).

10. (Amended) The shaft drive unit (1) as claimed in claim 1, wherein each braking resistor unit (10.1, 10.2, 10.3) has a geometrical structure which, in the circumferential direction of the input or output drive shaft (28) of the electrical machine (4) or of the wheel shaft (3), at least partially encloses said input or output drive shaft (28).

13. (Amended) The shaft drive unit (1) as claimed in claim 1, wherein the electrical machine (4) is in the form of a transverse flux machine.

14. (Amended) A drive system

- 14.1 having a shaft drive unit (1) as claimed in claim 1;
- 14.2 having a power supply system for the shaft drive unit (1);
- 14.3 the power supply system comprising a fuel cell which is electrically connected to the electrical machine.

15. (Amended) A drive system

- 15.1 having a shaft drive unit (1) as claimed in claim 1;
- 15.2 having a power supply system for the shaft drive unit (1);
- 15.2 the power supply system comprising an internal combustion engine, an electrical machine which can be mechanically coupled to it and can be operated as a generator in the traction mode, and an electrical coupling for connecting the power supply system to the electrical machine (4) for the shaft drive (1).

**APPENDIX B**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**  
**37 C.F.R. § 1.121(b)(iii) AND (c)(ii)**

**CLAIMS:**

4. (Amended) The shaft drive unit (1) as claimed in [one of claims] claim 1 [to 3], wherein the convertor unit (11) is arranged on the external circumference (14) of the housing (12) of the electrical drive machine (4).

5. (Amended) The shaft drive unit (1) as claimed in [one of claims] claim 1 [to 4], wherein the converter unit (11) is arranged in the housing of the electrical drive machine (4).

6. (Amended) The shaft drive unit (1) as claimed in [one of claims] claim 1 [to 3], wherein the converter unit (11) is arranged on one end surface (13) of the electrical drive machine (4).

7. (Amended) The shaft drive unit (1) as claimed in [one of claims] claim 2 [to 6], wherein the means for mechanical coupling between the electrical machine (4) and the converter unit (11) associated with it comprise connection means (21, 22) whose elements (4, 11) which are to be connected to one another are designed to be mutually complementary and to allow a force-fitting connection.

8. (Amended) The shaft drive unit (1) as claimed in [one of claims] claim 2 [to 6], wherein the means for mechanical coupling between the electrical machine (4) and the converter unit (11) associated with it comprise connection means (21, 22) which are designed to be mutually complementary and allow an interlocking connection.

9. (Amended) The shaft drive unit (1) as claimed in [one of claims] claim 1 [to 8], distinguished by the following features:

- 9.1 a large number of braking resistor units (10.1, 10.2, 10.3) are provided;
- 9.2 the braking resistor units (10.1, 10.2, 10.3, 10.4, 10.5) are grouped, in one view, onto the wheel shaft (3) in the axial direction in a plane in an annular shape around the circumference of the input or output drive shaft (28) of the electrical machine (4) or of the wheel shaft (3).

10. (Amended) The shaft drive unit (1) as claimed in [one of claims] claim 1 [to 9], wherein each braking resistor unit (10.1, 10.2, 10.3) has a geometrical structure which, in the circumferential direction of the input or output drive shaft (28) of the electrical machine (4) or of the wheel shaft (3), at least partially encloses said input or output drive shaft (28).

13. (Amended) The shaft drive unit (1) as claimed in [one of claims] claim 1 [to 12], wherein the electrical machine (4) is in the form of a transverse flux machine.

14. (Amended) A drive system

- 14.1 having a shaft drive unit (1) as claimed in [one of claims] claim 1 [to 13];
- 14.2 having a power supply system for the shaft drive unit (1);
- 14.3 the power supply system comprising a fuel cell which is electrically connected to the electrical machine.

15. (Amended) A drive system

- 15.1 having a shaft drive unit (1) as claimed in [one of claims] claim 1 [to 13];
- 15.2 having a power supply system for the shaft drive unit (1);
- 15.2 the power supply system comprising an internal combustion engine, an electrical machine which can be mechanically coupled to it and can be operated as a generator in the traction mode, and an electrical coupling for connecting the power supply system to the electrical machine (4) for the shaft drive (1).